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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,495	02/12/2001	Jun Hasegawa	203027US2	8097
22850	7590	07/01/2004		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VOLPER, THOMAS E	
			ART UNIT	PAPER NUMBER
			2665	6

DATE MAILED: 07/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/780,495

Applicant(s)

HASEGAWA, JUN

Examiner

Thomas Volper

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-13, 15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) 4, 14, 16 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because Figure 1 does not show any numeration for the parts specifically mentioned in the Specification. For example, lines 7-8, page 5 of the Specification refers to “first holding means 11” and “second holding means 12”. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to because of the following informalities: The terms “vertical path (VP)” and “vertical connection (VC)” in lines 32-33, page 6 of the Specification should be

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changed to --virtual path (VP)-- and --virtual connection (VC)--. In addition, the Specification should be checked for other errors since it appears to be a translation from a foreign Specification.

Appropriate correction is required.

Claim Objections

3. Claims 1-20 are objected to because of the following informalities:

There are numerous grammatical errors in the claims that are apparently due to translation from a foreign application. For example, claim 1 recites the limitation “wherein said shaping control method sets accuracy of transfer time of connections that the packets belongs” in lines 4-5. Such errors appear throughout the claims and make it difficult to determine what exactly is being claimed. It is the Applicant’s responsibility to find and correct such errors. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-3 are rejected under 35 U.S.C. 102(e) as being anticipated by Kohzuki et al. (US 2003/0007455).

Regarding claim 1, Kohzuki discloses a multi-stage traffic shaping method setting the accuracy of transfer times of packets belonging to specific connections in accordance with time intervals up to an actual transfer time (paragraph [0202] and claims 20 and 21).

Regarding claim 2, Kohzuki discloses that the VP sending time is revised at the VP shaper (see Figure 4), and that the VP shaping stage could be the last stage, i.e. closest to actual transfer time, (paragraph [0200]). In addition, another shaping stage can be added after the VP bandwidth stage (paragraph [0201]). This meets the definition of higher accuracy in stages at time nearer to an actual transfer time.

Regarding claim 3, as disclosed above, Kohzuki discloses n-stages of shaping (paragraph [0202]). Kohzuki also discloses sorting the packets according to which VPs should be send most recently (paragraphs [0150] and [0151]).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5-13, 15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiussi et al. (US 6,532,213) in view of Kohzuki et al. (US 2003/0007455).

Regarding claims 5 and 15, Chiussi discloses a first holding means (63), a second holding means (68) and extracting means (76) (see Figure 7). Chiussi discloses that the first stage (63) includes Delay-Class Shapers and shapes traffic of each connection to conform to a specified

envelope, and that the second stage associates timestamps with the packets released from the first stage (see Abstract). The specified envelope meets the limitation of a reference time and the timestamps meet the limitation of added information relating to transfer order. Chiussi fails to expressly disclose a theoretical transfer calculating means. Chiussi also fails to disclose a packet information holding means for holding a packet before transferring it to the theoretical transfer time calculating means. Kohzuki discloses a traffic shaper with multi-stages of traffic shaping functions. Kohzuki discloses a VC calculation unit (131) for calculating an estimated VC sending time that meets the limitation of a theoretical transfer time calculating means (paragraph [0069]). Kohzuki also discloses a cell buffer for temporarily storing a packet before calculating the VC sending time (see Abstract). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the VC calculation unit (131) of Kohzuki in the shaper of Chiussi. It also would have been obvious to a person of ordinary skill in the art to provide a cell buffer for holding a packet before calculating the sending time. One of ordinary skill in the art would have been motivated to use the VC calculation unit to determine how to classify the traffic into the different delay classes. One of ordinary skill in the art would have been motivated to provide a cell buffer in the invention of Chiussi in order to have a place to hold packets before they were classified into a Delay-Class Shaper based on the specified envelope.

Regarding claim 6, Chiussi fails to expressly disclose calculating a theoretical transfer time again. Kohzuki discloses calculating a VP sending time based on a VP bandwidth to which a particular VC belongs (paragraph [0119]). This meets the limitation of calculating another theoretical transfer time. At the time the invention was made, it would have been obvious to a

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person of ordinary skill in the art to calculate the VP sending time after calculating the VC transfer time. One of ordinary skill in the art would have been motivated to do this in order to make sure that the scheduled VC packets fit within the expected transfer time requirements of the VP to which a particular VC belongs.

Regarding claims 7-9, 17 and 18, Chiussi discloses Delay-Class Shapers 1-C that meet the limitation of a first holding means that has a plurality of different time series based on types of communication speeds into which the connections are divided (see Figure 7).

Regarding claims 10-12 and 19, Chiussi discloses Class Queues 1-C in Scheduler (68) that meet the limitation of allowing a portion of the information held in the first holding means to hold in the second holding means. Chiussi also discloses a specified envelope, as mentioned above, that meets the limitation of a prescribed time difference between the theoretical transfer time and reference time.

Regarding claim 13, Chiussi fails to expressly disclose setting a transferable identifier. Kohzuki discloses a VLD, which is a flag that indicates whether a transmission-wait cell exists in a corresponding VC (paragraph [0070]). This VLD is used to determine whether to update VC sending times (paragraph [0090] and [0091]). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use this flag in the invention of Chiussi. One of ordinary skill in the art would have been motivated to use such a flag in order to properly sort the VC packets according to their estimated sending times.

Allowable Subject Matter

8. Claims 4, 14, 16 and 20 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Regarding claim 4, the prior art of record does not disclose a multi-stage shaping control method wherein a time interval of time slot in a stage of mth order (m is an integer equal to or more than 2) with reference to the actual transfer time of the connections is set shorter than in a stage of (m+1) order.

Regarding claims 14 and 20, the prior art of record fails to disclose a shaping control apparatus wherein extracting means manage said information held in said holding means by a LIFO (Last In First Out) method.

Regarding claim 16, the prior art of record does not disclose a shaping control apparatus according to claim 15 wherein a plurality of packet belonging to the same connection does not exist in said first and second holding means.

Conclusion

9. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 8:30am and 6:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached at 703-308-6602. Any inquiry of a general nature or relating

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to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

Thomas E. Volper

TV

June 22, 2004

A handwritten signature in black ink, appearing to read 'Huy D. Vu', with a long horizontal stroke extending to the right.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600